General

Guideline Title

Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours.

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. 56 p. (Technology appraisal guidance; no. 265).

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Denosumab is recommended as an option for preventing skeletal-related events (pathological fracture, radiation to bone, spinal cord compression or surgery to bone) in adults with bone metastases from breast cancer and from solid tumours other than prostate if:

- Bisphosphonates would otherwise be prescribed and
- The manufacturer provides denosumab with the discount agreed in the patient access scheme

Denosumab is not recommended for preventing skeletal-related events in adults with bone metastases from prostate cancer.

Adults with bone metastases from solid tumours currently receiving denosumab for the prevention of skeletal-related events that is not recommended according to the above recommendations should be able to continue treatment until they and their clinician consider it appropriate to stop.

Clinical Algorithm(s)

This guidance has been incorporated into the following NICE Pathways, available from the National Institute for Health and Clinical Excellence Web site:

- Colorectal cancer
- Lung cancer
- Metastatic spinal cord compression
- Ovarian cancer

- Prostate cancer

Scope

Disease/Condition(s)

Skeletal-related events (pathological fracture, radiation to bone, spinal cord compression or surgery to bone) caused by bone metastases from breast cancer and from solid tumours other than prostate

Guideline Category

Assessment of Therapeutic Effectiveness

Prevention

Treatment

Clinical Specialty

Family Practice

Internal Medicine

Oncology

Orthopedic Surgery

Surgery

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To assess the clinical effectiveness and cost-effectiveness of denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours

Target Population

Adults with bone metastases from solid tumours

Interventions and Practices Considered

Denosumab

Major Outcomes Considered

- Clinical effectiveness
  - Time to first skeletal related event (pathological fracture, spinal cord compression, radiation or surgery to the bone)
  - Time to first and subsequent skeletal related event
  - Incidence of skeletal related events
  - Skeletal morbidity rate
  - Hypercalcaemia
  - Survival
  - Pain
  - Health-related quality of life
  - Adverse effects of treatment
- Cost-effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Clinical Excellence (NICE) commissioned an independent academic centre to perform a systematic literature review on the technology considered in this appraisal and prepare an assessment report. The assessment report for this technology appraisal was prepared by the Aberdeen Health Technology Assessment (HTA) Group (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Identification of Studies

Studies were identified by searching electronic databases and relevant websites, contact with clinical experts and the scrutiny of bibliographies of retrieved papers.

The databases searched were MEDLINE (1948 to April 2011), EMBASE (1980 to March 2011), Cochrane Library (all sections) (Issue 1, 2011), and Web of Science with Conference Proceedings (1970 to May 2011). Auto-alerts were set-up in MEDLINE and EMBASE to identify any studies indexed after the above searches were done. Other sources including the 2010 and 2011 meeting abstracts of ASCO (American Society of Clinical Oncology), American Urological Association and San Antonio Breast Cancer symposium were also searched. Searches were limited to English language studies only.

Full details of all searches are shown in Appendix 1 of the Assessment Report (see the "Availability of Companion Documents" field).

Inclusion and Exclusion Criteria

Types of Studies

The following studies were considered for inclusion:

- Systematic reviews and randomised controlled trials (RCT).
  There was no size restriction on the number of patients in trials, since those with inadequate numbers and hence power, would have been useful when combined in a meta-analysis. If there were any high quality existing systematic reviews that met the inclusion criteria, the Assessment Group would have considered updating them; however no relevant systematic reviews were identified.

- Observational studies were used, in addition to RCTs, for data on quality of life and safety.
  Only studies published in full were included, except for published abstracts that reported additional outcomes or analyses from studies already published in full.

Meeting abstracts were tabulated for use in the discussion to indicate ongoing research (for recent abstracts), or possible sources of publication bias (for older abstracts not subsequently published in full).

Types of Participants

The population considered were adults with confirmed carcinoma of the following:

- Breast
- Prostate
- Non-small cell lung cancer (NSCLC)
- Other solid tumours

plus, evidence of at least one bone metastasis.

The Assessment Group considered separately patient groups, based on location or type of primary cancer, where data permitted.

Types of Interventions

The intervention is denosumab (trade name Xgeva), manufactured by Amgen, given as a subcutaneous injection at dose of 120 mg every 4 weeks. The approved indication for denosumab is for the prevention of skeletal-related events (pathological fracture, radiation to bone, spinal cord compression or surgery to bone) in adults with bone metastases from solid tumours.

The Assessment Group excluded studies (such as pharmacokinetic or drug tolerability studies) where patients were only given a single dose of a drug and where studies compared different routes of administration of the same bisphosphonate. In studies that have arms with more than one dose of a licensed comparator drug, only arms of studies that used the UK licensed doses of the drug were included.

Types of Comparators

Bisphosphonates (BPs) considered as a comparator included:

- Sodium clodronate
- Disodium pamidronate
- Ibandronic acid
- Zoledronic acid

Etidronate was initially considered as an unlicensed (for this purpose) comparator, because of its much lower cost. However, clinical advice suggests infrequent use due to gastrointestinal toxicity.

Currently, zoledronic acid has UK marketing authorisation for the reduction of bone damage in all advanced malignancies involving bone. Disodium pamidronate and sodium clodronate are licensed for breast cancer and multiple myeloma, and ibandronic acid is only licensed for breast cancer. However, the Assessment Group also considered to include trials of these bisphosphonates when used outside their licensed indications.

Best Supportive Care (excluding bisphosphonates)

Best supportive care (BSC) was considered a comparator where bisphosphonates were not recommended. This varied depending on the type of cancer. The relevant NICE Clinical Guidelines recommend radiotherapy and analgesics within best supportive care. Other supportive care for bone metastasis recommended includes surgical fixation in breast cancer and multiple myeloma, strontium-89 in prostate cancer and nerve blocks in lung cancer.

See Section 5.2 of the Assessment Report for additional information on inclusion and exclusion criteria.

Cost-Effectiveness

Search Strategy and Quantity of Research Available

Two separate literature searches were conducted to identify studies considering cost-effectiveness and quality of life. Firstly, studies focusing on cost-effectiveness or quality of life in relation to bone metastases and skeletal-related events (SREs) were sought; this search identified 468 papers.

After having screened the titles and abstracts, 131 full text papers were retrieved.

A second search was conducted to identify studies considering cost-effectiveness or quality of life in relation to denosumab and bisphosphonates. This search identified 2600 papers. After having screened the titles and abstracts, 139 full text papers were retrieved.

The databases searched were: MEDLINE (1948 to May Week 3 2011); EMBASE (1980 to 2011 Week 21); MEDLINE In-Process & Other Non-Indexed Citations June 02, 2011; National Health Service (NHS) Economic Evaluation Database (June 2011); Science Citation Index (1970 - June 2011); Social Science Citation Index (1970 - June 2011); Conference Proceedings Citation Index – Science (1990 – June 2011); Conference Proceedings Citation Index – Social Science & Humanities (1990 – June 2011). Conference proceedings from the 2010 and 2011 meetings of the American Society of Clinical Oncology were hand searched. The searches had no date restrictions but were limited to English language papers.

Full details of the search strategies used and websites consulted are documented in Appendix 1 of the Assessment Report (see the "Availability of Companion Documents" field).

Number of Source Documents

Clinical Effectiveness

- Thirty-nine studies (74 reports) were included in the review.
- Of the 39 studies, 8 studies (40 reports) were included in network meta-analysis.

Cost-Effectiveness

- Studies focusing on cost-effectiveness or quality of life in relation to bone metastases and skeletal-related events (SREs): 131 full text papers were retrieved.
- Studies considering cost-effectiveness or quality of life in relation to denosumab and bisphosphonates: 139 full text papers were retrieved.
- The manufacturer presented an economic model.

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Meta-Analysis of Randomized Controlled Trials

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Clinical Excellence (NICE) commissioned an independent academic centre to perform a systematic literature review on the technology considered in this appraisal and prepare an assessment report. The assessment report for this technology appraisal was prepared by the Aberdeen Health Technology Assessment (HTA) Group (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Data Extraction Strategy

Selection of Studies

Study selection was made independently by two reviewers by screening titles, abstracts and full text papers. Discrepancies were resolved by discussion. There was no requirement of a third reviewer.

Data Extraction and Management

Data were extracted from the included studies by one reviewer, using a standardised data extraction form (see Appendix 2 of the Assessment Report), and checked by a second. Discrepancies were resolved by discussion. There was no need of third reviewer. Any study data received from the manufacturer's submission that met the inclusion criteria were extracted and quality assessed in accordance with the procedures outlined in the protocol for the assessment.

Critical Appraisal Strategy

The quality of the individual studies was assessed by one reviewer, and independently checked for agreement by a second reviewer.

The quality of the randomised controlled trials (RCTs) was assessed by using the Cochrane risk of bias tool (see Appendix 3 of the Assessment Report), which includes the following components:

- Adequate sequence generation
- Allocation concealment
- Blinding
- Incomplete outcome data addressed
- Free of selective reporting

Any sponsorship or conflict of interests mentioned was recorded.

Methods of Data Synthesis

Initially the Assessment Group looked for head-to-head trials of denosumab versus bisphosphonates or best supportive care. Their initial scoping searches indicated that at present there were only three published phase III trials of denosumab which included relevant population. All three use zoledronic acid as a comparator. The three patient groups included in the three trials are respectively: 1) advanced breast cancer, 2) castration resistant prostate cancer, and 3) patients with advanced cancer (excluding breast and prostate cancer) or multiple myeloma. Therefore, in order to be able to compare denosumab to bisphosphonates other than zoledronic acid, or to best supportive care, the search was widened to allow for network meta-analysis (NMA). This included head-to-head bisphosphonate (BP) trials, placebo controlled BP trials or best supportive care controlled trials.

Assessment of Heterogeneity

Trials meeting the inclusion criteria were assessed for heterogeneity. The studies were examined for similarity with respect to population, intervention, comparators, outcomes, skeletal-related event (SRE) definition and time frame. If trials were sufficiently homogeneous, a network meta-analysis of denosumab versus bisphosphonates and best supportive care was carried out to pool direct and indirect evidence from randomized trials in a single analysis.

Patient groups were analysed separately based on location or type of primary cancer. When sufficient data were available, subgroup analyses were performed to examine the effect of treatment depending on: the type of SRE, prior history of SREs, prior use of bisphosphonate, prior type of best supportive care, different adjuvant therapies, different routes of administration of the bisphosphonates, and the location of the metastases.

An indirect comparison/network meta-analysis was performed as shown in Figures 1 and 2 of the Assessment Report.

See Section 5.5 of the Assessment Report (see the "Availability of Companion Documents" field) for additional information.

Cost-Effectiveness

The economic modelling approach adopted was to amend the inputs to the manufacturer model to revise the base case estimates, coupled with some additional sensitivity analyses around clinical inputs and costs. The impact of the results from the assessment group NMA were then applied and contrasted with those of the manufacturer. The assessment group then rebuilt the manufacturer model as a cross check and to enable the introduction of the structural model elements of (i) spinal cord compression having a sustained impact on quality of life beyond five months from diagnosis, and (ii) a decay in quality of life in the final year. This was coupled with additional sensitivity analyses.

See Section 11 of the Assessment Report (see the "Availability of Companion Documents" field) for additional information on cost-effectiveness.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Considerations

Technology appraisal recommendations are based on a review of clinical and economic evidence.

Technology Appraisal Process

The National Institute for Health and Clinical Excellence (NICE) invites 'consultee' and 'commentator' organisations to take part in the appraisal process. Consultee organisations include national groups representing patients and carers, the bodies representing health professionals, and the manufacturers of the technology under review. Consultees are invited to submit evidence during the appraisal and to comment on the appraisal documents.

Commentator organisations include manufacturers of the products with which the technology is being compared, the National Health Service (NHS) Quality Improvement Scotland and research groups working in the area. They can comment on the evidence and other documents but are not asked to submit evidence themselves.

NICE then commissions an independent academic centre to review published evidence on the technology and prepare an "assessment report". Consultees and commentators are invited to comment on the report. The assessment report and the comments on it are then drawn together in a document called the evaluation report.

An independent Appraisal Committee then considers the evaluation report. It holds a meeting where it hears direct, spoken evidence from nominated clinical experts, patients and carers. The Committee uses all the evidence to make its first recommendations, in a document called the "appraisal consultation document" (ACD). NICE sends all the consultees and commentators a copy of this document and posts it on the NICE Web site. Further comments are invited from everyone taking part.

When the Committee meets again it considers any comments submitted on the ACD; then it prepares its final recommendations in a document called the 'final appraisal determination' (FAD). This is submitted to NICE for approval.

Consultees have a chance to appeal against the final recommendations in the FAD. If there are no appeals, the final recommendations become the basis of the guidance that NICE issues.

Who Is on the Appraisal Committee?

NICE technology appraisal recommendations are prepared by an independent committee. This includes health professionals working in the NHS and people who are familiar with the issues affecting patients and carers. Although the Appraisal Committee seeks the views of organisations representing health professionals, patients, carers, manufacturers and government, its advice is independent of any vested interests.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

Summary of the Appraisal Committee's Key Conclusions

Availability and Nature of Evidence for Cost-Effectiveness

The Appraisal Committee discussed the economic models provided by the manufacturer and the Assessment Group, noting that the Assessment Group had based its model on the basic structure of the manufacturer's model. The Committee concluded that the structure of the Assessment Group model was appropriate to inform its deliberations, but that it was appropriate to also consider the wider economic evidence available.

Uncertainties Around and Plausibility of Assumptions and Inputs in the Economic Model

The Committee noted the similarities in the outputs of the modelling completed by the manufacturer and the Assessment Group, but it also noted the considerable differences in these outputs compared with those of the existing cost-effectiveness literature.

Incorporation of Health-Related Quality-of-Life Benefits and Utility Values

The Committee discussed whether the assumption of a reduction in utility starting 5 months before the skeletal-related event is recorded is a valid assumption. It concluded that it was appropriate to assume reduced quality of life before the skeletal-related event happened.

Have Any Potential Significant and Substantial Health-Related Benefits Been Identified That Were Not Included in the Economic Model, and How Have They Been Considered?

The Committee discussed the differences between the Assessment Group modelling and the published economic analysis that had informed the guideline on advanced breast cancer (NICE clinical guideline 81). It noted that the utility decrement associated with each skeletal-related event was considerably greater than that assumed in the Assessment Group modelling.

Are There Specific Groups of People for Whom the Technology Is Particularly Cost Effective?

The Committee concluded that denosumab, based on current prices and with the patient access scheme, was shown to be cost effective compared with zoledronic acid (or other bisphosphonates in the case of metastatic breast cancer). Therefore, denosumab would be an additional option when zoledronic acid (or other bisphosphonates in the case of metastatic breast cancer) would be used.

For this patient group, the Committee also discussed the off-label use of disodium pamidronate in clinical practice, although it recognised that no estimate of clinical effectiveness was available for disodium pamidronate in this group. It also noted that the cost of disodium pamidronate was higher than that of zoledronic acid. The Committee concluded that denosumab should also be considered as an alternative where disodium pamidronate was used. In people with bone metastases from solid tumours other than breast and prostate cancers, denosumab was recommended as an alternative option if bisphosphonates would otherwise be prescribed.

What Are the Key Drivers of Cost-Effectiveness?

The Committee discussed the univariate sensitivity analysis conducted by the Assessment Group. It noted that the incremental cost-effectiveness ratio (ICER) was sensitive to reductions in the price of zoledronic acid.

Most Likely Cost-Effectiveness Estimate (Given as an ICER)

Without the patient access scheme, denosumab could not be recommended as a cost-effective use of National Health Service (NHS) resources.

For breast cancer, the patient access scheme reduced the cost of denosumab so that it became less costly and more effective than zoledronic acid.

For people with bone metastases from solid tumours other than breast and prostate, the patient access scheme reduced the ICER for denosumab compared with zoledronic acid to less than £16,000 per quality-adjusted life-year (QALY) gained and to less than £6000 per QALY gained in the non-small cell lung cancer subgroup.

For all 3 patient groups, compared with best supportive care, denosumab was associated with high ICERs even with the patient access scheme in the Assessment Group's analyses. The lowest of these remained above £70,000 per QALY gained.

See Section 4 of the original guideline document for details of the economic analysis provided by the manufacturer, the Assessment Group comments, and the Appraisal Committee considerations.

Method of Guideline Validation

External Peer Review

Description of Method of Guideline Validation

Consultee organisations from the following groups were invited to comment on the draft scope, Assessment Report and the Appraisal Consultation Document (ACD) and were provided with the opportunity to appeal against the Final Appraisal Determination.

- Manufacturer/sponsors
- Professional/specialist and patient/carer groups

Commentator organisations (without the right of appeal)

In addition, individuals selected from clinical expert and patient advocate nominations from the professional/specialist and patient/carer groups were also invited to comment on the ACD.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated for each recommendation.

The Appraisal Committee considered clinical and cost-effectiveness evidence. For clinical effectiveness, 8 randomised controlled trials, including 3 involving denosumab, were the main source of evidence. For cost-effectiveness, the manufacturer's model and a model prepared by the Assessment Group were considered.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours

Potential Harms

The summary of product characteristics lists the following adverse reactions for denosumab: dyspnoea, diarrhoea, osteonecrosis of the jaw, hyperhidrosis, tooth extraction, hypophosphataemia and hypocalcaemia.

For full details of adverse reactions and contraindications, see the summary of product characteristics available at http://emc.medicines.org.uk/ .

Contraindications

Contraindications

Denosumab is contraindicated in people with severe, untreated hypocalcaemia.

For full details of adverse reactions and contraindications, see the summary of product characteristics available at http://emc.medicines.org.uk/ .

Qualifying Statements

Qualifying Statements

- This guidance represents the views of the National Institute for Health and Clinical Excellence (NICE) and was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.
- Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to

have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

Implementation of the Guideline

Description of Implementation Strategy

- The Secretary of State and the Welsh Assembly Minister for Health and Social Services have issued directions to the National Health Service (NHS) in England and Wales on implementing National Institute for Health and Clinical Excellence (NICE) technology appraisal guidance. When a NICE technology appraisal recommends use of a drug or treatment, or other technology, the NHS must usually provide funding and resources for it within 3 months of the guidance being published. If the Department of Health issues a variation to the 3-month funding direction, details will be available on the NICE website. When there is no NICE technology appraisal guidance on a drug, treatment or other technology, decisions on funding should be made locally.
- The Department of Health and the manufacturer have agreed that denosumab will be available to the NHS with a patient access scheme in which a discount is applied to all invoices. The level of the discount is commercial in confidence. It is the responsibility of the manufacturer to communicate the level of discount to the relevant NHS organisations. Any enquiries from NHS organisations about the patient access scheme can be directed to the manufacturer at: xgeva-nicepas@amgen.com.
- The technology in this appraisal may not be the only treatment for bone metastases from solid tumours. If a NICE technology appraisal recommends use of a technology, it is as an option for the treatment of a disease or condition. This means that the technology should be available for a patient who meets the clinical criteria set out in the guidance, subject to the clinical judgement of the treating clinician. The NHS must provide funding and resources when the clinician concludes and the patient agrees that the recommended technology is the most appropriate to use, based on a discussion of all available treatments.
- NICE has developed tools to help organisations put this guidance into practice (listed below). These are available on the NICE website (http://guidance.nice.org.uk/TA265).
    - Costing template and report to estimate the national and local savings and costs associated with implementation.
    - Audit support for monitoring local practice.

Implementation Tools

Audit Criteria/Indicators

Clinical Algorithm

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. 56 p. (Technology appraisal guidance; no. 265).

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Oct

Guideline Developer(s)

National Institute for Health and Care Excellence (NICE) - National Government Agency [Non-U.S.]

Source(s) of Funding

National Institute for Health and Clinical Excellence (NICE)

Guideline Committee

Appraisal Committee

Composition of Group That Authored the Guideline

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Financial Disclosures/Conflicts of Interest

Committee members are asked to declare any interests in the technology to be appraised. If it is considered there is a conflict of interest, the member is excluded from participating further in that appraisal.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) format from the National Institute for Health and Clinical Excellence (NICE) Web site.

Availability of Companion Documents

The following are available:

- Systematic review of the clinical effectiveness and cost-effectiveness, and economic evaluation, of denosumab for the treatment of bone metastases from solid tumours. Assessment report. Aberdeen (UK): Aberdeen Health Technology Assessment Group; 2011 Nov 4. 281 p. Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site.
- Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours. Costing template. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Denosumab for the prevention of skeletal-related events in adults with bone metastases from solid tumours. Clinical audit tool. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. 7 p. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Colorectal cancer overview. NICE pathway. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Lung cancer overview. NICE pathway. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Metastatic spinal cord compression overview. NICE pathway. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Ovarian cancer overview. NICE pathway. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.
- Prostate cancer overview. NICE pathway. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. (Technology appraisal guidance; no. 265). Electronic copies: Available from the NICE Web site.

Patient Resources

The following is available:

- Denosumab for preventing complications that result from cancer spreading to the bone from solid tumours in adults. Information for the public. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Oct. 7 p. (Technology appraisal guidance; no. 265). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their

diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on December 10, 2012.

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